

What applications of time-sharing seem most significant from your viewpoint? What primary advantages and/or limitations do you see for these? What pitfalls lie in the way? Any other comments or questions?

THE MEANINGS OF TIME-SHARING

A PANEL DISCUSSION - SJCC 1966
9 AM Wednesday, April 27, in the Auditorium

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TIME-SHARING, n. (proposed definition)

1. Concurrent or contemporaneous sharing of a single facility by more than one user.
2. In information technology, operating a data processing facility in such a way that each of many concurrent users is ordinarily unaware of its use by others.

A data processing facility comprises one or more central processors, file storage media, and input-output (terminal) devices.

Time-sharing implies the sharing of the processor(s) and storage device(s) among multiple users located at different (non-time-shared) terminal devices, which may (but need not) be located remotely from the central facility and connected to it by digital communications media.

Sharing processor capacity implies multi-programming the processor by switching it quickly from one user's task to another (selected by a scheduling algorithm) whenever it (1) has completed the task at hand, or (2) needs to access a file or auxiliary storage before continuing, or (3) has reached the end of the longest time-slice that can be allowed the user without excessively (or, hopefully, even noticeably) delaying responses to the other users. In a message-oriented system, natural restrictions on the maximum amount of processing which one input message can demand often eliminates the need for time-slicing and elaborate scheduling algorithms. Efficient use of core storage implies swapping space in core among users by copying to and from drums or other auxiliary storage devices.

Sharing file capacity is not only an inherent requirement of time-sharing but one of its great potential economies, in that it offers opportunities for scheduled access (which increases the access rate), improved randomizing of record addresses, and use of hierarchies of mass storage devices. A shared file may be used as a data warehouse, supply house (or bank), cooperative (or pool), or exchange. The potential significance of each of these categories is the topic to which the panel will primarily address itself.

Name _____
Title _____
Affiliation _____
Address _____



WAREHOUSE

1. The Data Warehouse offers storage on demand for a single user. While often coupled with an exchange capability to permit sharing procedures or data by selected groups of users, the intent is that the user regard his terminal as his private computer.

a) How many potential users of in-house computers will this form of time-sharing garner in the next five to ten years among:

small users? none__ some__ many__ most__ all__

medium users? none__ some__ many__ most__ all__

large users? none__ some__ many__ most__ all__

b) Who now offers these services oriented:

computationally? IBM, GE, BB&N, Allen-Babcock, Applied Logic, and

toward business? KEYDATA, and

2. The Data Supply House, which has been called a Data Bank, provides a source of data for reference by users. It is updated only by the supplier, not by the users.

a) Data supply house services now in use or imminent include stock market quotations, legal precedent research services, corporate financial histories and economic trends for portfolio analysis, and



SUPPLY HOUSE

b) Promising, but still years from realization, are full-scale library reference services, medical diagnostic aids (or is this a cooperative?), and

3. The Data Exchange permits privacy-protected unilateral or bilateral cross-access within what is basically a data warehouse.

a) Imminent are such applications as hospital in-patient record keeping, commercial factoring, and

b) Farther away are transfer of credit (the "checkless society"), and

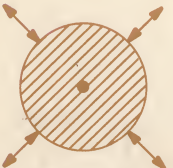


EXCHANGE

4. The Data Cooperative represents a pool of information that is both interrogated and updated by the same group of users.

a) Airline reservations currently fall into this category, along with

b) Less imminent are



COOPERATIVE